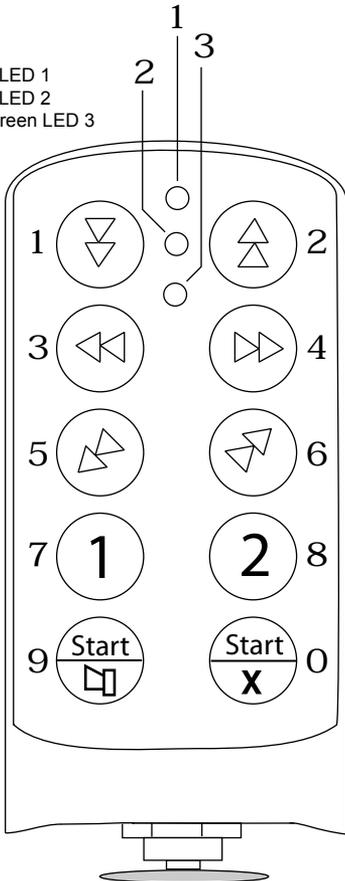


# Tele Radio 860

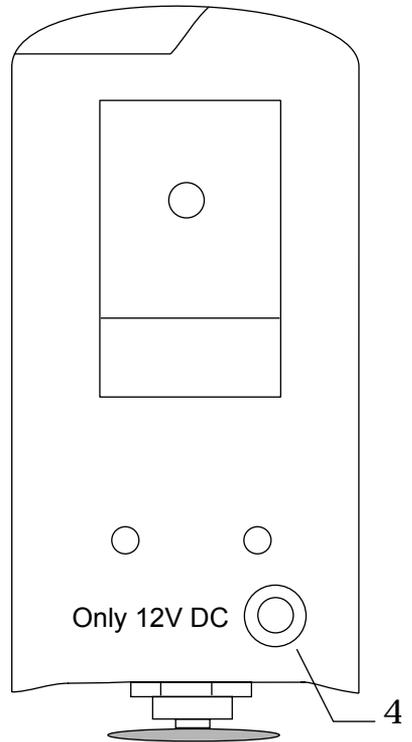
Manual

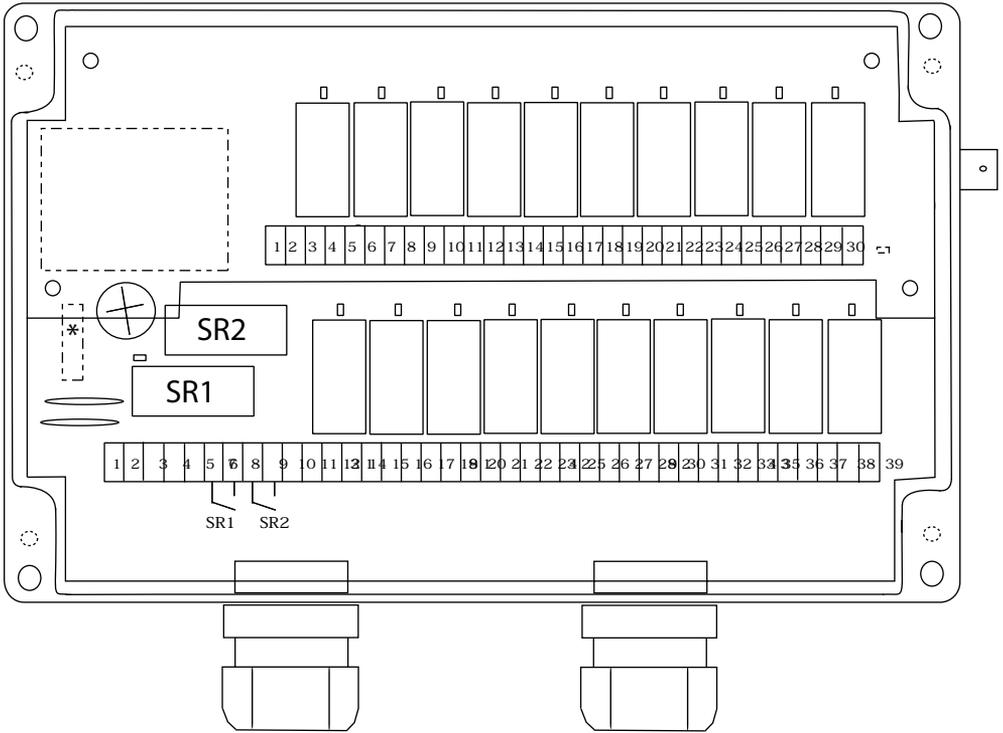


860 TX  
 1= Yellow LED 1  
 2= Yellow LED 2  
 3= Red/ Green LED 3



860 TX  
 4= Charge connector  
 Only 12V DC

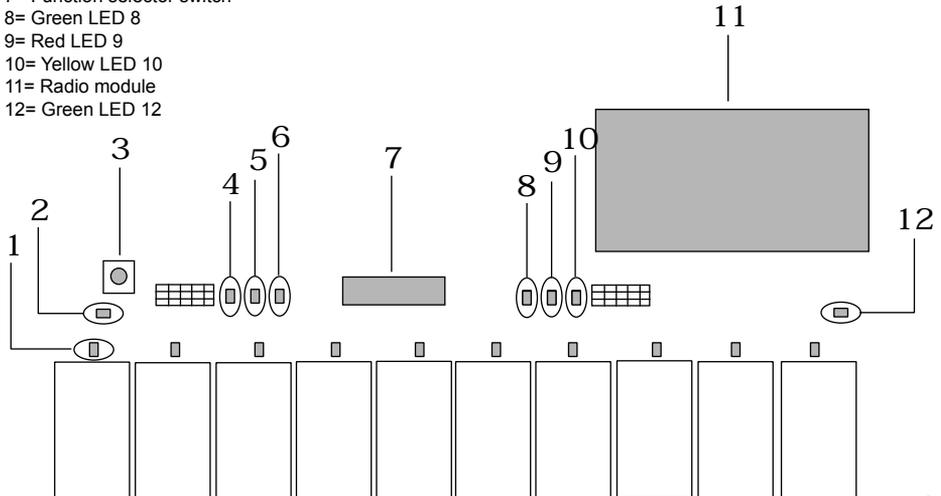




\* Fuse S1 0,5A cermaic fast (F) for receivers with voltage supply :48, 115 and 230V AC.

860RX

- 1= Red LED 1
- 2= Yellow LED 2
- 3= Reset button
- 4= Green LED 4
- 5= Red LED 5
- 6= Yellow LED 6
- 7= Function selector switch
- 8= Green LED 8
- 9= Red LED 9
- 10= Yellow LED 10
- 11= Radio module
- 12= Green LED 12



## THE SYSTEM'S FUNCTIONS

### Frequency:

System 860 uses 32 different frequencies, which makes it possible to have several transmitters and receivers operating within the same coverage area.

### Battery indicator

The transmitter has a built-in battery indicator that turns red when about 10% of the battery charge remains. Total operating time is about 12 hours. Recharge time is about 2 hours.

### Automatic shutdown:

To conserve battery power, the transmitter has an integrated automatic shutdown function. Possible selections for automatic shutdown are: after 2, 6, or 12 minutes, or no automatic shutdown.

### PIN code:

Up to 10 individual/personal PIN codes can be programmed into each transmitter.

### Logging on/off:

The receiver can be programmed to accept up to three different transmitters, where each transmitter has a unique code. For security reasons, only one transmitter can be logged on at a time. In order to log on another transmitter, the current transmitter must log off first.

### Function selection:

The system includes the ability to program a number of different relay function combinations.

### Momentary or latching relay functions:

Each function relay can be programmed for a momentary or latching relay function.

### Pre-sets:

With this function, it is possible to pre-set/prioritize one relay function/button over another. If a pre-set is programmed and two buttons are pressed at the same time, the transmitter prioritizes/pre-sets one of the buttons over the other, which makes it impossible, for example, to activate the up and down buttons together.

### The safety relay:

The receiver is supplied with two safety relays, which are monitored continuously. Any failure of either safety relay will shut down the receiver.

### Built-in safety function when the transmitter is started: 0-position monitoring

If any button is pressed involuntarily when the transmitter is to be started, the transmitter will not start. This is indicated by the red LED. So-called 0-position monitoring.

## THE 860TX TRANSMITTER

*Illustrations of the transmitter can be found on page 2.*

10 two-stage push buttons

32 different frequencies, 433.875 - 434.650MHz

Stop button

Rechargeable battery

Radio: PLL Synthesizer

Enclosure dimensions: 6.30x2.75x1.38 inches

Weight: About 13.4 ounces

Enclosure class: IP 54

DK

NO

SE

NL

ES

FR

DE

GB

US

## Charging the transmitter:

The transmitter is supplied with a rechargeable battery. The LED on the transmitter indicates red or green depending on battery status. Operating time for a fully charged transmitter is about 12 hours with continuous use.

When the battery needs to be recharged, the LED changes color from green to red. At that point about 10% of the battery capacity remains (approximately 1 hour of continuous use).

### Note:

*Battery life increases if you wait for the LED to turn red before recharging. However, the battery should be recharged at least once every other month when not in use.*

When recharging, the LED will be red and will change to green when fully charged (after about 2 hours). The transmitter cannot be overcharged.

*Charging: 12V DC (500mA) or model TR115V12 battery charger*

## THE 860RX RECEIVER

*Illustrations of the receiver can be found on page 3.*

Relay outputs: Midi: 10+2 for stop function, Maxi: 20+2 for stop function

Stop relay: potential-less, closes 8A AC1

Function relay: potential-less, opens/closes 16A AC1

32 different frequencies, 433.875 - 434.650MHz

Radio: PLL synthesizer

Dimensions: 9.45 x 6.30 x 3.15 inches

Capsulation class: IP 65

Antenna connection: BNC

Supply voltage	Power consumption, Min.	Power consumption, Max.
12V DC	150mA	1A
24V DC	60mA	600mA
24V AC	80mA	800mA
48V AC	100mA	400mA
115V AC	70mA	200mA
230V AC	25mA	100mA

## The receiver's different LED indicators

*Yellow LED 2* lights when the receiver is fed the correct supply voltage.

*Green LED 12* lights when the receiver is receiving radio signals (433.875 – 434.650MHz).

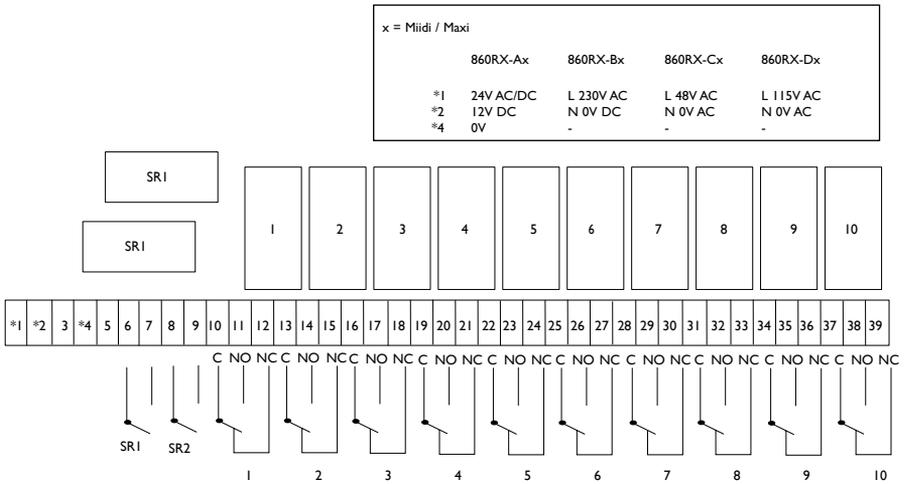
*Green LEDs 4 and 8* light when the receiver is locked on to a transmitter.

*Red LEDs 5 and 9* indicate that the receiver has malfunctioned.

*Yellow LEDs 6 and 10* flash 1, 2, or 3 times, depending on how many transmitters are programmed into the receiver.

Each relay has a red LED that lights when the relay is activated.

## CONNECTING THE RECEIVER



## INSTALLING THE RECEIVER AND ITS ANTENNA

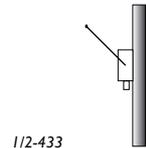
The receiver shall be installed:

- As close as possible to the equipment it is operating. If possible, protected from the elements.
- With cable holders facedown.

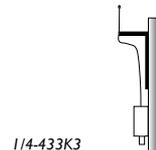
Placing the receiver antenna:

- Mount the antenna as high above the ground as possible.
- The antenna should not be mounted in the vicinity of metal objects, such as girders, electric cables, and other antennas.

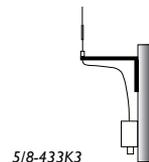
The 1/2-wave antenna is earth-independent, which is suitable, and very advantageous, when there is no "natural" earth, such as a tin roof or vehicle roof. If the receiver is mounted on a wall, it is important that the antenna is angled away from the wall.



The 1/4-433K3 antenna with 9.84 foot coaxial cable makes it possible to place the antenna as high as possible. In order to attain the best possible range with the 1/4-433K antenna, it should be installed on a tin roof, free from other metal objects and antennas. For vehicle-mounting, it is best to install the antenna using a vehicle-mount (BRKT - Vehicle antenna mounting bracket).



The 5/8-wave antenna with 9.84 foot coaxial cable makes it possible to place the antenna as high as possible. In order to attain the best possible range with the 5/8-wave antenna, it should be installed on a tin roof, free from other metal objects and antennas. For wall-mounting, it is best to install the antenna using a wall-mount (BRKT - Vehicle antenna mounting bracket).



## PROGRAMMING THE TRANSMITTER AND RECEIVER TO

The receiver can be programmed to accept up to three different transmitters, where each transmitter has a unique code. The LEDs 6 and 10 on the receiver indicate how many transmitters are programmed into the receiver.

No flashing = No transmitters programmed

1 flash = 1 transmitter programmed

2 flashes = 2 transmitters programmed

3 flashes = 3 transmitters programmed

- 1) On the receiver, set switch 2 of the function selection dip switch to the ON position.
- 2) Press the reset button on the receiver. *Green, red, and yellow LEDs 4-6 and 8-10 light.*
- 3) Release the reset button. *Green (4 and 8) and red (5 and 9) LEDs go out. Yellow LEDs 6 and 10 light.*  
(If the red and yellow LEDs flash alternately, three transmitters are already programmed into the receiver, and all three must be deleted and programmed again.)
- 4) Start the transmitter by pressing the start buttons (9 and 10) at the same time for at least 1 second. Release the buttons.
- 5) Press buttons 9 and 10 again at the same time until the yellow LEDs 6 and 10 on the receiver begin to flash. The receiver has found the transmitter.
- 6) On the receiver, set switch 2 of the function selection dip switch to the OFF position.
- 7) The transmitter is programmed.

*Remember to fill out the form on the last page (178) after programming!*

## DELETING ALL TRANSMITTERS IN THE RECEIVER

### ON THE RECEIVER:

- 1) Set switch 2 of the function selection dip switch to the ON position.
- 2) Press the reset button. *Green (4 and 8), red (5 and 9), and yellow (6 and 10) LEDs light.*
- 3) Release the reset button. *Green (4 and 8) and red (5 and 9) LEDs go out. Yellow (6 and 10) LEDs light. If the red and yellow LEDs flash alternately, this means that 3 transmitters are programmed into the receiver.*
- 4) Set switch 2 to the OFF position.
- 5) Set switch 2 to the ON position within 2 seconds. *The yellow (6 and 10) LEDs flash and the receiver is deleted.*
- 6) Set switch 2 to the OFF position.

## STARTING THE TRANSMITTER

- 1) The stop button must be pulled out.
- 2) Press the start buttons (buttons 9 and 10) at the same time for at least 1 second.
- 3) Release the start buttons.
- 4) To indicate that the transmitter is operational, LED 3 lights green.

## STARTING A TRANSMITTER WITH A PIN CODE:

- 1) The stop button must be pulled out.
- 2) Press the start buttons (buttons 9 and 10) at the same time for at least 1 second.
- 3) Release the buttons. *Yellow (2) and green (3) LEDs flash.*
- 4) Enter the PIN code (4 digits). *Green LED (3) lights.*  
If an incorrect PIN code is entered, the transmitter will shut down.

## TURNING OFF THE TRANSMITTER

In order to turn off the transmitter, press the stop button. All relays in the receiver are disconnected when the stop button on the transmitter is pressed.

## LOCKING/UNLOCKING A RECEIVER

When a transmitter that is programmed into a receiver is started, the receiver "locks in" on the transmitter's ID code. In this situation, the receiver will only accept signals from that transmitter (even if other transmitters are programmed into the receiver). Green LEDs 4 and 8 light on the receiver in order to confirm that only the selected transmitter can be used.

When another transmitter is to be used, the receiver must first be unlocked. Thereafter, another pre-programmed transmitter can be locked into the the receiver.

### UNLOCKING THE RECEIVER:

---

The transmitter to be logged off must be operational/logged on.

On the logged-on transmitter:

- 1) Press the stop button on the transmitter. Red LED 3 lights for 1 second, thereafter yellow LED 2 (on the transmitter) lights and red LED 3 begins to flash.
- 2) Enter the PIN code. You have 2 seconds per button press. If no PIN code is pre-programmed, 4 zeros (0000) shall be entered in order to unlock the receiver.
- 3) If the PIN code is accepted, the transmitter sends a signal to unlock the receiver. The transmitter shuts down and is now logged off. Green LEDs 4 and 8 on the receiver go out and now another pre-programmed transmitter can log on.

If an incorrect PIN code is entered, the transmitter will shut down without unlocking the receiver.

### UNLOCKING THE RECEIVER WITHOUT A TRANSMITTER

---

- 1) Set switch 2 to the ON position.
- 2) Press the reset button. Green (4 and 8), red (5 and 9), and yellow (6 and 10) LEDs light.
- 3) Release the reset button. Green (4 and 8) and red (5 and 9) LEDs go out. Yellow LEDs (6 and 10) light.
- 4) Set switch 2 to the OFF position.
- 5) Yellow (6) and green (10) LEDs go out.

Another transmitter can now log on to the receiver.

## CHANGING FREQUENCY

Decide which channel/frequency you want to transmit on using the table below before you begin programming. If you want access to channels 17-32, you must contact your dealer.

Programming/changing frequency can only be done with the transmitter. The receiver automatically senses this and changes to the new frequency.

DK

NO

SE

NL

ES

FR

DE

GB

US

## FREQUENCY TABLE:

CHANNEL	FREQUENCY	LOOP	CHANNEL	FREQUENCY	LOOP
01	434.650MHz	Open	17	434.625MHz	Closed
02	434.600MHz	Open	18	434.575MHz	Closed
03	434.550MHz	Open	19	434.525MHz	Closed
04	434.500MHz	Open	20	434.475MHz	Closed
05	434.450MHz	Open	21	434.425MHz	Closed
06	434.400MHz	Open	22	434.375MHz	Closed
07	434.350MHz	Open	23	434.325MHz	Closed
08	434.300MHz	Open	24	434.275MHz	Closed
09	434.250MHz	Open	25	434.225MHz	Closed
10	434.200MHz	Open	26	434.175MHz	Closed
11	434.150MHz	Open	27	434.125MHz	Closed
12	434.100MHz	Open	28	434.075MHz	Closed
13	434.050MHz	Open	29	434.025MHz	Closed
14	434.000MHz	Open	30	434.975MHz	Closed
15	433.950MHz	Open	31	433.925MHz	Closed
16	433.900MHz	Open	32	433.875MHz	Closed

## CHANGING FREQUENCY:

- 1) Start the transmitter by pressing buttons 9 and 10 at the same time for at least 1 second. *Red LED 3 lights.*
- 2) Release button 9, keep button 10 depressed.
- 3) Release button 10 and then select button 2 for frequency. *You have 0.3 seconds to press the button. Yellow LED 2 lights and green LED 3 begins to flash. If you don't press another function button, the transmitter starts.*
- 4) Enter the security code 1, 2, 3, 4. *You have 5 seconds per button press; if the time limit is passed, the transmitter shuts down. Green LED 3 flashes and yellow LED 2 goes out if the security code is correct.*
- 5) Select channel/frequency. For channel 02, for example, first press button 0 and then button 2. *Yellow LED 1 lights each time an accepted button is pressed. When you have selected a frequency, yellow LED (1) flashes 3 times and the programming and frequency change is complete.*
- 6) Restart the transmitter.

*Remember to write down changes on the form on the last page (178) after programming!*

## AUTOMATIC SHUTDOWN

In order to save battery power, the transmitter can be programmed to automatically shut down after the last command is issued. See the time alternatives below.

### Time alternatives

- Button 0 = No automatic shutdown.
- Button 1 = Automatic shutdown after 2 min.
- Button 2 = Automatic shutdown after 6 min.
- Button 3 = Automatic shutdown after 12 min.

## PROGRAMMING AUTOMATIC SHUTDOWN:

- 1) Start the transmitter by pressing buttons 9 and 10 at the same time for at least 1 second. *Red LED 3 lights.*
- 2) Release button 9, keep button 10 depressed.
- 3) Release button 10 and then select button 3 for automatic shutdown. *You have 0.3 seconds to press the button. Yellow LED 2 lights and green LED 3 begins to flash. If you don't press another function button, the transmitter starts.*
- 4) Enter the security code 1, 2, 3, 4. *You have 5 seconds per button press; if the time limit is passed, the transmitter shuts down. Green LED 3 flashes and yellow LED 2 goes out if the security code is correct.*
- 5) Select the desired time alternative (see the alternatives above). *Yellow LED 1 lights each time an accepted button is pressed. When you have selected an alternative, yellow LED (1) flashes 3 times and the programming is complete.*
- 6) Restart the transmitter.

*Remember to write down the changes on the form on the last page (178) after programming!*

## PIN CODE FUNCTION

It is possible to program 10 different PIN codes for each transmitter.

### PROGRAMMING PIN CODES:

---

- 1) Start the transmitter by pressing buttons 9 and 10 at the same time for at least 1 second. Red LED 3 lights.
- 2) Release button 9, keep button 10 depressed.
- 3) Release button 10 and select button 4 for PIN code. You have 0.3 seconds to press the button. Yellow LED 2 lights and green LED 3 begins to flash. If you don't press another function button, the transmitter starts.
- 4) Then enter the security code 1, 2, 3, 4. Yellow LED 1 lights each time an accepted button is pressed. You have 5 seconds per button press; if the time limit is passed, the transmitter shuts down. Green LED 3 flashes and yellow LED 2 goes out if the security code is correct.
- 5) Then select which number (button) you want the PIN code pre-programmed to (0-9). Green LED 3 flashes. Yellow LED 2 will light if the number is already programmed with a PIN code.
- 6) Select a PIN code by entering a 4-digit combination. Confirm the code by repeating it. When you have selected a PIN code, yellow LED (1) flashes 3 times and the programming is complete. The transmitter shuts down.
- 7) Restart the transmitter.

*Note: The PIN code combination 0000 cannot be used.*

*Remember to write down the changes on the form on the last page (178) after programming!*

### CHANGING/DELETING PIN CODES:

---

- 1) Start the transmitter by pressing buttons 9 and 10 at the same time for at least 1 second. Red LED 3 lights.
- 2) Release button 9, keep button 10 depressed.
- 3) Release button 10 and select button 4 for PIN code. You have 0.3 seconds to press the button. Yellow LED 2 lights and green LED 3 begins to flash. If you don't press another function button, the transmitter starts.
- 4) Then enter the security code 1, 2, 3, 4. Yellow LED 1 lights each time an accepted button is pressed. You have 5 seconds per button press; if the time limit is passed, the transmitter shuts down. Green LED 3 flashes and yellow LED 2 goes out if the security code is correct.
- 5) Press the number (0-9) that the PIN code is programmed into. Yellow LED 2 lights.
- 6) Enter the existing four-digit PIN code. Yellow LED 2 goes out if the PIN code is correct.
- 7) **Changing PIN code:**  
Select a PIN code by entering a 4-digit combination. Confirm the code by repeating it. When you have selected a PIN code, yellow LED (1) flashes 3 times and the programming is complete.
- 8) **Deleting PIN codes**  
Enter four zeroes (0000) and confirm by entering four zeroes (0000) again.  
Yellow LED (1) flashes 3 times and deletion is complete. The transmitter shuts down.
- 9) Restart the transmitter.

## DELETING ALL PIN CODES

If required, you can delete all the PIN codes in the transmitter.

### DELETING ALL PIN CODES IN THE TRANSMITTER:

---

- 1) Start the transmitter by pressing buttons 9 and 10 at the same time for at least 1 second. Red LED 3 lights.
- 2) Release button 9, keep button 10 depressed.
- 3) Release button 10 and then select button 8 to delete PIN codes. Yellow LED 2 lights and green LED 3 flashes.
- 4) Enter the code 7, 1, 0, 4, 2, 1. When you have entered the code, yellow LED (1) flashes 3 times and deletion is complete. The transmitter shuts down.
- 5) Restart the transmitter.

DK

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## FUNCTION SELECTION

With the aid of the transmitter's buttons and by setting the function selection dip switches on the receiver, the functions in the table can be programmed. Note that the table is an overview and that all function alternatives are described in more detail in the text that follows the table.

Func. = Number of functions

Selection TX = Function selection TX (transmitter)

LED TX = LED TX (transmitter)

Selection RX = Function selection RX (receiver)

Type RX = Receiver model (Maxi or Midi)

F. Switch 4, 5, 6, 7, 8 = Function selection dip switch (receiver) 4, 5, 6, 7, 8

Func.	Selection TX	LED TX	Selection RX	Type RX	F. Switch 4,5,6,7,8	Comments
10x1	0	-	A	MIDI	OFF,OFF,OFF,OFF,OFF	Only 1 receiver
4x2+2x1	0	-	B	MIDI	OFF,OFF,OFF,OFF, <b>ON</b>	Only 1 receiver
6x2+1x1	0	-	C	MIDI	OFF,OFF,OFF, <b>ON</b> ,OFF	Only 1 receiver
10x1	1	1	D	MIDI	OFF,OFF,OFF,OFF,OFF	Receiver 1 (8x1)
10x1	1	2	D	MIDI	<b>ON</b> ,OFF,OFF,OFF,OFF	Receiver 2 (8x1)
10x1	1	1+2	D	MIDI	x,OFF,OFF,OFF,OFF	Receiver 1+2 (8x1)
10x1	2	1	E	MIDI	OFF,OFF,OFF,OFF,OFF	Receiver 1 (8x1)
10x1	2	2	E	MIDI	<b>ON</b> ,OFF,OFF,OFF,OFF	Receiver 2 (8x1)
10x1	3	1	F	MIDI	OFF,OFF,OFF,OFF,OFF	Receiver 1 (9x1)
10x1	3	2	F	MIDI	<b>ON</b> ,OFF,OFF,OFF,OFF	Receiver 2 (9x1)
4x2+2x1	1	1	G	MIDI	OFF,OFF,OFF,OFF, <b>ON</b>	Receiver 1 (4x2+2x1)
4x2+2x1	1	2	G	MIDI	<b>ON</b> ,OFF,OFF,OFF, <b>ON</b>	Receiver 2 (4x2+2x1)
4x2+2x1	1	1+2	G	MIDI	x,OFF,OFF,OFF, <b>ON</b>	Receiver 1+2 (4x2+2x1)
4x2+2x1	2	1	H	MIDI	OFF,OFF,OFF,OFF, <b>ON</b>	Receiver 1 (4x2+2x1)
4x2+2x1	2	2	H	MIDI	<b>ON</b> ,OFF,OFF,OFF, <b>ON</b>	Receiver 2 (4x2+2x1)
6x2+1x1	1	1	I	MIDI	OFF,OFF,OFF, <b>ON</b> ,OFF	Receiver 1 (6x2+1x1)
6x2+1x1	1	2	I	MIDI	<b>ON</b> ,OFF,OFF, <b>ON</b> ,OFF	Receiver 2 (6x2+1x1)
6x2+1x1	1	1+2	I	MIDI	x,OFF,OFF, <b>ON</b> ,OFF	Receiver 1+2 (6x2+1x1)
6x2+1x1	2	1	J	MIDI	OFF,OFF,OFF, <b>ON</b> ,OFF	Receiver 1 (6x2+1x1)
6x2+1x1	2	2	J	MIDI	<b>ON</b> ,OFF,OFF, <b>ON</b> ,OFF	Receiver 2 (6x2+1x1)
10x2	0	-	K	MAXI	OFF,OFF,OFF,OFF,OFF	Only 1 receiver
10x2	1	1	L	MAXI	OFF,OFF,OFF,OFF,OFF	Receiver 1 (8x2)
10x2	1	2	L	MAXI	<b>ON</b> ,OFF,OFF,OFF,OFF	Receiver 2 (8x2)
10x2	1	1+2	L	MAXI	x,OFF,OFF,OFF,OFF	Receiver 1+2 (8x2)
10x2	2	1	M	MAXI	OFF,OFF,OFF,OFF,OFF	Receiver 1 (8x2)
10x2	2	2	M	MAXI	<b>ON</b> ,OFF,OFF,OFF,OFF	Receiver 2 (8x2)
10x2	1	1	N	MAXI	OFF,OFF,OFF, <b>ON</b> , <b>ON</b>	Lift 1
10x2	1	2	N	MAXI	OFF,OFF,OFF, <b>ON</b> , <b>ON</b>	Lift 2
10x2	1	1+2	N	MAXI	OFF,OFF,OFF, <b>ON</b> , <b>ON</b>	Lift 1+2

Func.	Selection	LED TX	Selection RX	Type RX	F. Switch 4,5,6,7,8	Comments
10x2	2	1	O	MAXI	OFF,OFF,OFF, <b>ON,ON</b>	Lift 1
10x2	2	2	O	MAXI	OFF,OFF,OFF, <b>ON,ON</b>	Lift 2
10x2	3	1	P	MAXI	OFF,OFF, <b>ON</b> ,OFF,OFF	9+9 (Button 1-9->Relay 1-9)
10x2	3	2	P	MAXI	OFF,OFF, <b>ON</b> ,OFF,OFF	9+9 (Button 1-9->Relay 11-19)

## THE TRANSMITTER'S FUNCTION SELECTION AND LED INDICATORS

The transmitter allows you to program function selections. The transmitter's 2 yellow LEDs indicate which receiver(s), relay group(s), or lifts in an OHT crane are to be controlled. By setting the receiver's function selection dip switch at the same time, a number of different types of relay functions can be selected (see page 168).

When you have programmed function selection 1-3, the transmitter's LED 1 will always light when the transmitter starts.

**Note:** The transmitter is delivered with function selection 0 as default.

### FUNCTION SELECTION 0:

It is only possible to control one receiver with function selection 0. The two yellow LEDs are not used.

*The transmitter's function selection 0 is associated with the receiver's function selection: A, B, C, K*

### FUNCTION SELECTION 1:

With function selection 1, you can control 2 receivers (receiver 1, receiver 2, or both at the same time), or you can control 2 lifts in an OHT crane (lift 1, lift 2, or both lifts at the same time). By pressing button 7, yellow LED 1 is lit; if button 8 is pressed, yellow LED 2 is lit. If buttons 7 and 8 are pressed at the same time, LEDs 1 and 2 are lit.

*The transmitter's function selection 1 is associated with the receiver's function selection: D, G, I, L, N*

### FUNCTION SELECTION 2:

With function selection 2, you can control 2 receivers (receiver 1 or receiver 2, but never both at the same time), or you can control 2 lifts in an OHT crane (lift 1 or lift 2, but never both at the same time). By pressing button 7, yellow LED 1 is lit; if button 8 is pressed, LED 2 is lit. Yellow LEDs 1 and 2 can never be lit at the same time.

*The transmitter's function selection 2 is associated with the receiver's function selection: E, H, J, M, O*

### FUNCTION SELECTION 3:

With function selection 3, you can control 2 receivers (9 single functions in each receiver) or 1 receiver (9+9 single functions). By pressing button 10, you toggle between lighting yellow LED 1 and 2. Yellow LEDs 1 and 2 can never be lit at the same time.

*The transmitter's function selection 3 is associated with the receiver's function selection: F, P*

## PROGRAMMING TRANSMITTER FUNCTION SELECTION:

- 1) Start the transmitter by pressing buttons 9 and 10 for at least 1 second. Red LED 3 lights.
- 2) Release button 9, keep button 10 depressed.
- 3) Release button 10 and then select button 1 for function selection. You have 0.3 seconds to press button 1. Yellow LED 2 lights and green LED 3 begins to flash. If you don't press another function button, the transmitter starts.
- 4) Enter the security code: 1, 2, 3, 4. You have 5 seconds per button press; if the time limit is passed, the transmitter shuts down. Green LED 3 flashes and yellow LED 2 goes out if the security code is correct.
- 5) Then choose the respective function alternative (button 0, 1, 2, or 3). Note: Button 0 de-programs the function. Yellow LED 1 lights each time an accepted button is pressed. When you have selected a function alternative, yellow LED (1) flashes 3 times and the programming is complete.
- 6) Restart the transmitter by pressing buttons 9 and 10.

## THE RECEIVER'S FUNCTION SELECTION/RELAY

### PROGRAMMING RECEIVER FUNCTION SELECTION:

Function selection in the receiver is programmed by setting the function selection dip switches 4-8 to the ON or OFF position. To see how the switches are to be set; see the respective function selection or the function selection table.

#### 860RX-MIDI RECEIVER

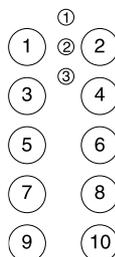
##### Function selection A:

Relay function: 10 single functions (10x1).

See the illustration on the right to see which buttons control the respective relays.

Set the function selection dip switches to: 4=OFF, 5=OFF, 6=OFF, 7=OFF, 8=OFF

The transmitter's function selection A is associated with the transmitter's function selection: 0 (see page 169)



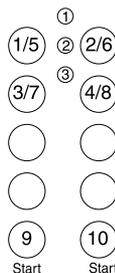
##### Function selection B:

Relay function: 4 double + 2 single functions (4x2+2x1).

See the illustration on the right to see which buttons control the respective relays.

Set the function selection dip switches to: 4=OFF, 5=OFF, 6=OFF, 7=OFF, 8=ON

The transmitter's function selection B is associated with the transmitter's function selection: 0 (see page 169)



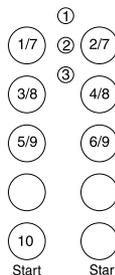
##### Function selection C:

Relay function: 6 double + 1 single function (6 x 2 + 1 x 1).

See the illustration on the right to see which buttons control the respective relays.

Set the function selection dip switches to: 4=OFF, 5=OFF, 6=OFF, 7=ON, 8=OFF

The transmitter's function selection C is associated with the transmitter's function selection: 0 (see page 169)



### Function selection D:

Relay function: 8 single functions + 2 relays for indication that the receiver is selected. With the transmitter's 7 and 8 buttons, receiver 1, 2, or both can be controlled. See the illustration on the right to see which buttons control the respective relays.

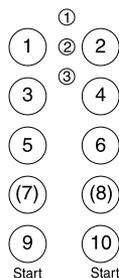
#### Receiver 1:

Set the function selection dip switches to: 4=OFF, 5=OFF, 6=OFF, 7=OFF, 8=OFF  
Relay 7 is activated when yellow LED 1 on the transmitter is lit.

#### Receiver 2:

Set the function selection dip switches to: 4=ON, 5=OFF, 6=OFF, 7=OFF, 8=OFF  
Relay 8 is activated when yellow LED 2 on the transmitter is lit.

The transmitter's function selection B is associated with the transmitter's function selection: 1 (see page 169)



### Function selection E:

Relay function: 8 single functions + 2 relays for indication that the receiver is selected. With the transmitter's 7 and 8 buttons, receiver 1 or 2 can be controlled, but never both at the same time. See the illustration on the right to see which buttons control the respective relays.

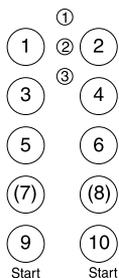
#### Receiver 1:

Set the function selection dip switches to: 4=OFF, 5=OFF, 6=OFF, 7=OFF, 8=OFF  
Relay 7 is activated when yellow LED 1 on the transmitter is lit.

#### Receiver 2:

Set the function selection dip switches to: 4=ON, 5=OFF, 6=OFF, 7=OFF, 8=OFF  
Relay 8 is activated when yellow LED 2 on the transmitter is lit.

The transmitter's function selection E is associated with the transmitter's function selection: 2 (see page 169)



### Function selection F:

Relay function: 9 single functions + 1 relay for indication that the receiver is selected. With the transmitter's 10 button, receiver 1 or 2 can be controlled, but never both at the same time. See the illustration on the right to see which buttons control the respective relays.

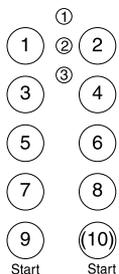
#### Receiver 1:

Set the function selection dip switches to: 4=OFF, 5=OFF, 6=OFF, 7=OFF, 8=OFF  
Relay 10 is activated when yellow LED 1 on the transmitter is lit.

#### Receiver 2:

Set the function selection dip switches to: 4=ON, 5=OFF, 6=OFF, 7=OFF, 8=OFF  
Relay 10 is activated when yellow LED 2 on the transmitter is lit.

The transmitter's function selection F is associated with the transmitter's function selection: 3 (see page 169)



### Function selection G:

Relay function: 4 double + 2 single functions (4x2+2x1).

With the transmitter's 7 and 8 buttons, receiver 1, 2, or both can be controlled.

See the illustration on the right to see which buttons control the respective relays.

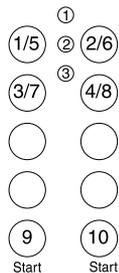
Receiver 1:

Set the function selection dip switches to: 4=OFF, 5=OFF, 6=OFF, 7=OFF, **8=ON**

Receiver 2:

Set the function selection dip switches to: 4=**ON**, 5=OFF, 6=OFF, 7=OFF, **8=ON**

The transmitter's function selection G is associated with the transmitter's function selection: **1** (see page 169)



### Function selection H:

Relay function: 4 double + 2 single functions (4x2+2x1)

With the transmitter's 7 and 8 buttons, receiver 1 or 2 can be controlled, but never both receivers at the same time. See the illustration on the right to see which buttons control the respective relays.

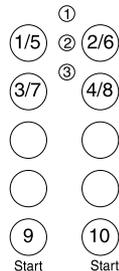
Receiver 1:

Set the function selection dip switches to: 4=OFF, 5=OFF, 6=OFF, 7=OFF, **8=ON**

Receiver 2:

Set the function selection dip switches to: **4=ON**, 5=OFF, 6=OFF, 7=OFF, **8=ON**

The transmitter's function selection H is associated with the transmitter's function selection: **2** (see page 169)



### Function selection I:

Relay function: 6 double + 1 single function (6 x 2 + 1x 1)

With the transmitter's 7 and 8 buttons, receivers 1, 2, or both can be controlled. See the illustration on the right to see which buttons control the respective relays.

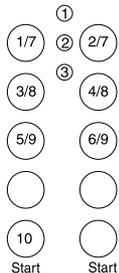
Receiver 1:

Set the function selection dip switches to: 4=OFF, 5=OFF, 6=OFF, **7=ON**, 8=OFF

Receiver 2:

Set the function selection dip switches to: **4=ON**, 5=OFF, 6=OFF, **7=ON**, 8=OFF

The transmitter's function selection I is associated with the transmitter's function selection: **1** (see page 169)



### Function selection J:

Relay function: 6 double + 1 single function (6 x 2 + 1x 1)

With the transmitter's 7 and 8 buttons, receiver 1 or 2 can be controlled, but never both receivers at the same time. See the illustration on the right to see which buttons control the respective relays.

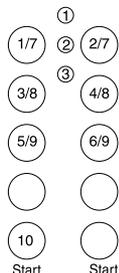
Receiver 1:

Set the function selection dip switches to: 4=OFF, 5=OFF, 6=OFF, **7=ON**, 8=OFF

Receiver 2:

Set the function selection dip switches to: **4=ON**, 5=OFF, 6=OFF, **7=ON**, 8=OFF

The transmitter's function selection J is associated with the transmitter's function selection: **2** (see page 169)



# 860RX-MAXI RECEIVER

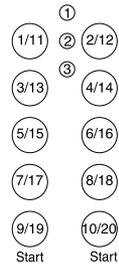
## Function selection K:

Relay function: 20 double functions (10x2).

See the illustration on the right to see which buttons control the respective relays.

Set the function selection dip switches to: 4=OFF, 5=OFF, 6=OFF, 7=OFF, 8=OFF

The transmitter's function selection K is associated with the transmitter's function selection: **0** (see page 169)



## Function selection L:

Relay function: 8 double functions + 2 relays for indication that the receiver is selected. With the transmitter's 7 and 8 buttons, receivers 1, 2, or both can be controlled. See the illustration on the right to see which buttons control the respective relays.

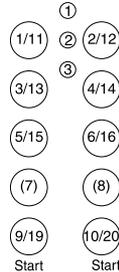
Receiver 1:

Set the function selection dip switches to: 4=OFF, 5=OFF, 6=OFF, 7=OFF, 8=OFF  
Relay 7 is activated when yellow LED 1 on the transmitter is lit.

Receiver 2:

Set the function selection dip switches to: **4=ON**, 5=OFF, 6=OFF, 7=OFF, 8=OFF  
Relay 8 is activated when yellow LED 2 on the transmitter is lit.

The transmitter's function selection L is associated with the transmitter's function selection: **1** (see page 169)



## Function selection M:

Relay function: 8 double functions + 2 relays for indication that the receiver is selected.

With the transmitter's 7 and 8 buttons, receiver 1 or 2 can be controlled, but never both receivers at the same time. See the illustration on the right to see which buttons control the respective relays.

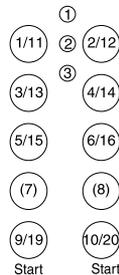
Receiver 1:

Set the function selection dip switches to: 4=OFF, 5=OFF, 6=OFF, 7=OFF, 8=OFF  
Relay 7 is activated when yellow LED 1 on the transmitter is lit.

Receiver 2:

Set the function selection dip switches to: **4=ON**, 5=OFF, 6=OFF, 7=OFF, 8=OFF  
Relay 8 is activated when yellow LED 2 on the transmitter is lit.

The transmitter's function selection M is associated with the receiver's function selection: **2** (see page 169)



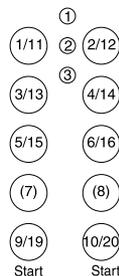
## Function selection N:

Relay function: 8 double functions + 2 relays for indication of which lift is selected. With the transmitter's 7 and 8 buttons, you can control lift 1, 2, or both at the same time in an OHT crane. See the illustration on the right to see which buttons control the respective relays.

Set the function selection dip switches to: 4=OFF, 5=OFF, 6=OFF, **7=ON, 8=ON**

Relay 7 is activated when yellow LED 1 on the transmitter is lit.  
Relay 8 is activated when yellow LED 2 on the transmitter is lit.

The transmitter's function selection N is associated with the transmitter's function selection: **1** (see page 169)



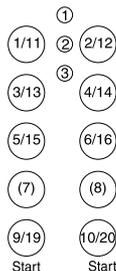
## Function selection O:

Relay function: 8 double functions + 2 relays for indication of which lift is selected. With the transmitter's 7 and 8 buttons, you can control lift 1 or 2 in an OHT crane, but *never both at the same time*. See the illustration on the right to see which buttons control the respective relays.

Set the function selection dip switches to: 4=OFF, 5=OFF, 6=OFF, **7=ON, 8=ON**

Relay 7 is activated when yellow LED 1 on the transmitter is lit.  
Relay 8 is activated when yellow LED 2 on the transmitter is lit.

The transmitter's function selection O is associated with the transmitter's function selection: **2** (see page 169)



## Function selection P:

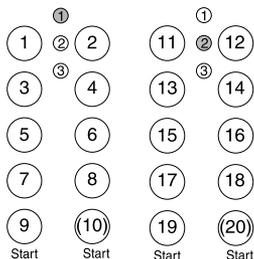
Relay function: 9+9 single functions + 2 relays for indication of selected relay group. With the transmitter's 10 button, you select which relay group (1-9 or 11-19) you wish to control. See the illustration on the right to see which buttons control the respective relays.

Set the function selection dip switches to: 4=OFF, 5=OFF, **6=ON**, 7=OFF, 8=OFF

Relay 10 is activated when yellow LED 1 on the transmitter is lit.  
Buttons 1-9 control relays 1-9.

Relay 20 is activated when yellow LED 2 on the transmitter is lit.  
Buttons 11-19 control relays 1-9.

The transmitter's function selection P is associated with the transmitter's function selection: **3** (see page 169)



## MOMENTARY OR LATCHING RELAY FUNCTIONS

The system is delivered with the momentary function as its default setting. Program as described below if you wish to set a latching function.

*Momentary function = The relay actuates/is activated only during the time the transmitter button is pressed.*

*Latching/Toggle function = The relay's position changes every time the button on the transmitter is pressed, but retains the new position after you release the button.*

### PROGRAMMING THE LATCHING RELAY FUNCTION:

- 1) Start the system.
- 2) Set the receiver's function selection dip switch 1 to the ON position. All relays in the receiver are disconnected and the red LEDs for the respective relays go out.
- 3) Press the buttons on the transmitter that you wish to have a latching/toggle function. The red LED will light for the relays that you have selected to have latching/toggle functions.
- 4) Set the receiver's function selection dip switch 1 to the OFF position. Latching relay functions are programmed and can now be used.

### RESTORE DEFAULT SETTINGS (MOMENTARY):

- 1) Start the system.
- 2) Set the receiver's function selection dip switch 1 to the ON position. All relays in the receiver are disconnected and the red LEDs for the respective relays go out.
- 3) Set the receiver's function selection dip switch 1 to the OFF position. All relays have momentary functions.

Setting pre-sets means that it is possible to pre-set/prioritize one relay function/button over another. If a pre-set is programmed and two buttons are pressed at the same time, the transmitter prioritizes/pre-sets one of the buttons over the other, which makes it impossible, for example, to activate the up and down buttons together.

*Look through the options and decide which channel/frequency you want to program using the table below before you begin programming.*

*Note that the alternative OFF, OFF = no pre-set*

## Pre-sets 10x1

- Functions 1-2 are locked when they are pressed at the same time.
- Functions 3-4 are locked when they are pressed at the same time.
- Functions 5-6 are locked when they are pressed at the same time.
- Functions 7-8 are locked when they are pressed at the same time.
- Functions 9-10 are locked when they are pressed at the same time.

## Red LEDs for respective relays

- LED 1 = ON.
- LED 2 = ON.
- LED 3 = ON.
- LED 4 = ON.
- LED 5 = ON.
- LED 6 = ON.
- LED 7 = ON.
- LED 8 = ON.
- LED 9 = ON.
- LED 10 = ON.

## Pre-sets 10x2

- Function 11 has priority over 1, function 12 over 2.
- Function 11 has priority over 1, function 12 over 2.
- Functions 1-2 and 11-12 are locked when they are pressed at the same time.
- Function 13 has priority over 3, function 14 over 4.
- Function 13 has priority over 3, function 14 over 4.
- Functions 3-4 and 13-14 are locked when they are pressed at the same time.
- Functions 3-4 and 13-14 are locked when they are pressed at the same time.
- Function 15 has priority over 5, function 16 over 6.
- Function 15 has priority over 5, function 16 over 6.
- Functions 5-6 and 15-16 are locked when they are pressed at the same time.
- Functions 5-6 and 15-16 are locked when they are pressed at the same time.
- Function 17 has priority over 7, function 8 over 18.
- Function 17 has priority over 7, function 18 over 8.
- Functions 7-8 and 17-18 are locked when they are pressed at the same time.
- Functions 7-8 and 17-18 are locked when they are pressed at the same time.

## Red LEDs for respective relays

- LED 1 = ON.
- LED 2 = OFF.
- LED 1 = OFF.
- LED 2 = ON.
- LED 1 = ON.
- LED 2 = ON.
- LED 3 = ON.
- LED 4 = OFF.
- LED 3 = OFF.
- LED 4 = ON.
- LED 3 = ON.
- LED 4 = ON.
- LED 5 = ON.
- LED 6 = OFF.
- LED 5 = OFF.
- LED 6 = ON.
- LED 5 = ON.
- LED 6 = ON.
- LED 7 = ON.
- LED 8 = OFF.
- LED 7 = OFF.
- LED 8 = ON.
- LED 7 = ON.
- LED 8 = ON.

## Pre-sets 4x2+2

Function 5 has priority over 1, function 6 over 2.

Function 5 has priority over 1, function 6 over 2.  
Functions 1-2, 5-6 are locked when they are pressed at the same time.

Functions 1-2, 5-6 are locked when they are pressed at the same time.

Function 7 has priority over 3, function 8 over 4.

Function 7 has priority over 3, function 8 over 4.  
Functions 3-4, 7-8 are locked when they are pressed at the same time.

Functions 3-4, 7-8 are locked when they are pressed at the same time.

Functions 9-10 are locked when they are pressed at the same time.

## Red LEDs for respective relays

LED 1 = ON

LED 2 = OFF

LED 1 = OFF.

LED 2 = ON.

LED 1 = ON.

LED 2 = ON.

LED 3 = ON.

LED 4 = OFF.

LED 3 = OFF.

LED 4 = ON.

LED 3 = ON.

LED 4 = ON.

LED 9 = ON.

LED 10 = ON

## Pre-sets 6x2+1

Function 7 has priority over 1, function 7 over 2.

Function 7 has priority over 1, function 7 over 2.  
Functions 1-2 and 7 are locked when they are pressed at the same time.

Functions 1-2 and 7 are locked when they are pressed at the same time.

Function 8 has priority over 3, function 8 over 4.

Function 8 has priority over 3, function 8 over 4.  
Functions 3-4 and 8 are locked when they are pressed at the same time.

Functions 3-4 and 8 are blocked when they are pressed at the same time.

Function 9 has priority over 5, function 9 over 6.

Function 9 has priority over 5, function 9 over 6.  
Functions 5-6 and 9 are locked when they are pressed at the same time.

Functions 5-6 and 9 are locked when they are pressed at the same time.

## Red LEDs for respective relays

LED 1 = ON.

LED 2 = OFF.

LED 1 = OFF.

LED 2 = ON.

LED 1 = ON.

LED 2 = ON.

LED 3 = ON.

LED 4 = OFF.

LED 3 = OFF.

LED 4 = ON.

LED 3 = ON.

LED 4 = ON.

LED 5 = ON.

LED 6 = OFF.

LED 5 = OFF.

LED 6 = ON.

LED 5 = ON.

LED 6 = ON.

## PROGRAMMING PRE-SETS:

---

- 1) Start the system.
- 2) **On the receiver:** set switch 3 of the function selection dip switch to the ON position. *All relays in the receiver are disconnected and the red LEDs for the respective relays go out.*
- 3) **On the transmitter:** program by pressing the buttons (LEDs) that are marked ON in the table; pre-set. Ex. LED 5 = OFF and LED 6=ON, program by pressing button 6 on the transmitter, and the LEDs will then be lit as specified for the desired pre-set alternative. *The red LED will light for the relays that you selected.*
- 4) **On the receiver:** set switch 3 to the OFF position. The pre-set is now complete and will be applied.

## DELETING PRE-SETS:

---

- 1) Start the system.
- 2) **On the receiver:** set switch 3 of the function selection dip switch to the ON position. *All relays in the receiver are disconnected and the red LEDs for the respective relays go out.*
- 3) **On the receiver:** set switch 3 of the function selection dip switch to the OFF position. The pre-set is now deleted (no relay is pre-set).

## TROUBLESHOOTING

If the equipment is not working as it should, we would ask you to follow the steps below.

FAULTY FUNCTION	POSSIBLE CAUSES	REMEDY
The receiver's yellow LED for correct supply voltage is not lit.	Incorrect supply voltage to the receiver.	Check the supply voltage.
	The fuse in the receiver is not intact.	Replace the fuse.
The receiver's yellow LEDs for number of programmed transmitters is not flashing.	No transmitter is programmed into the receiver.	Program the disred transmitter.
The transmitter does not function when you press buttons 9 and 10 at the same time (at least 1 second) and then release the buttons. The LED on the transmitter lights red.	The battery is discharged.	Load the transmitter.
	A button on the transmitter is faulty.	Contact your dealer.
When starting the transmitter LED 3 flashes red when you press buttons 9 and 10 at the same time.	The stop button is pressed in.	Pull out the stop button.
When starting the transmitter the red LED is lit and yellow LED 1 flashes when you press buttons 9 and 10 at the same time.	The processor indicates that it has located a fault in the stop button.	Press the stop button without releasing buttons 9 and 10. If the stop button is intact, LED 2 should begin to flash. Pull out the stop button and release buttons 9 and 10. If the transmitter doesn't start after this step, the stop button needs to be replaced.
The range is too short.	The antenna or antenna cables are damaged or incorrectly installed.	Contact your dealer. Change the placement of the antenna. Change the antenna cable.
The receiver's red LED (5 or 9) flashes (560ms on/560ms off).	Microcontroller EEPROM memory error.	Contact your dealer.
The receiver's red LED (5 or 9) flashes (150ms on/150ms off).	Safety relay SR1 or SR2 contact error.	Contact your dealer.
The receiver's red LED (5 or 9) lights constantly.	Microcontroller RAM/ROM memory error.	Contact your dealer.

If you have gone through these instructions and still cannot get the radio system to work properly, contact your dealer on 1-888-744-6560 or 1-724-733-1200.

DK

NO

SE

NL

ES

FR

DE

GB

US

# SETTINGS FORM: RECEIVER AND TRANSMITTER

The following information shall be documented. Copy the form and enclose it when service is required.

Receiver serial no.: \_\_\_\_\_

Transmitter serial no.: \_\_\_\_\_

Toggle relay: \_\_\_\_\_

Function selection: \_\_\_\_\_

Pre-sets: \_\_\_\_\_

Automatic shutdown: \_\_\_\_\_

Programmed transmitters:

Frequency: \_\_\_\_\_

ID1: \_\_\_\_\_ ID2: \_\_\_\_\_ ID3: \_\_\_\_\_

PIN position	PIN code /Name
--------------	----------------

Transmitter serial no.: \_\_\_\_\_

1 \_\_\_\_\_

Function selection: \_\_\_\_\_

2 \_\_\_\_\_

Automatic shutdown: \_\_\_\_\_

3 \_\_\_\_\_

Frequency: \_\_\_\_\_

4 \_\_\_\_\_

PIN position	PIN code /Name
--------------	----------------

5 \_\_\_\_\_

1 \_\_\_\_\_

6 \_\_\_\_\_

2 \_\_\_\_\_

7 \_\_\_\_\_

3 \_\_\_\_\_

8 \_\_\_\_\_

4 \_\_\_\_\_

9 \_\_\_\_\_

5 \_\_\_\_\_

0 \_\_\_\_\_

6 \_\_\_\_\_

Transmitter serial no.: \_\_\_\_\_

7 \_\_\_\_\_

Function selection: \_\_\_\_\_

8 \_\_\_\_\_

Automatic shutdown: \_\_\_\_\_

9 \_\_\_\_\_

Frequency: \_\_\_\_\_

0 \_\_\_\_\_

PIN position	PIN code /Name
--------------	----------------

1 \_\_\_\_\_

"EC Declaration of Conformity for Tele Radio radio remote control systems can be found at <http://www.tele-radio.com>"

2 \_\_\_\_\_



3 \_\_\_\_\_

4 \_\_\_\_\_

5 \_\_\_\_\_

6 \_\_\_\_\_

7 \_\_\_\_\_

8 \_\_\_\_\_

9 \_\_\_\_\_

0 \_\_\_\_\_

- DK
- NO
- SE
- NL
- ES
- FR
- DE
- GB
- US

## TELERADIO COMPANY TERMS AND CONDITIONS OF SALE

1. **AGREEMENT:** The Purchaser grants to TeleRadio and TeleRadio retains a security interest in all equipment shipped pursuant to this contract and the proceeds thereof until the Purchaser shall have made full payment for the equipment. In the event of a failure to make payment on the date when due in accordance with the terms designated, the entire balance shall become due and payable at once. In case of default of payment, TeleRadio shall have the right to enter the premises of purchaser and take possession of the equipment immediately, wherever it may be found, and remove it with or without process of law and may retain all money paid hereunder as liquidated damages and rental for said equipment. While any amounts are payable to TeleRadio, the Purchaser shall not sell, mortgage, pledge or lease said TeleRadio equipment without the prior written permission of TeleRadio.

2. **WARRANTIES:** Subject to the limitations below, TeleRadio warrants all of its products to be free from material defects in material and workmanship. However, TeleRadio's liability under such warranty shall be limited to repair or replacement of any product which TeleRadio's inspection shall disclose to have been defective. This warranty does not apply to any products, which have been subject to abuse, mishandling, or improper use, and does not include field labor of any type. TeleRadio's quotation does not include price provision for performance bond of indemnity. Therefore, the additional cost incurred to provide such a bond shall be added to the total amount of this quote and paid by Purchaser. The warranty period for any equipment shipped hereunder is one (1) year and covers all labor and material manufactured by TeleRadio, provided Purchaser returns them to the factory for repair. Defective items will be repaired or replaced free of charge at TeleRadio's discretion, during the one- (1) year term of this warranty. Freight and/or postage are not covered by said warranty and will be paid by Purchaser. Any services rendered in the field will be performed at current rates for time and travel at the discretion of TeleRadio and will be paid by the Purchaser. All commercial grade products of TeleRadio carry a warranty period of one (1) year. Batteries, cases, switches, and such other items subject to normal wear and deterioration are not included in this warranty. TeleRadio's warranty period begins at system receipt after direct shipment to the Purchaser.

IN NO EVENT WILL TELERADIO BE LIABLE FOR INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. EXCEPT AS STATED ABOVE, TELERADIO MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESSED OR IMPLIED, NO OTHER REPRESENTATION OR WARRANTY IS GIVEN, AND NO AFFIRMATION OF TELERADIO OR ITS REPRESENTATIVES BY WORD OR ACTION SHALL CONSTITUTE A WARRANTY. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE ONE (1) YEAR PERIOD DESCRIBED HEREIN. TELERADIO SPECIFICALLY DISCLAIMS, AND PURCHASER HEREBY WAIVES, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE.

3. **PAYMENT:** In the event credit is applied for and granted, terms shall be net thirty (30) days. All equipment will be invoiced at time of shipment. In the event any payment is not received according to the terms set forth herein, TeleRadio may, at its discretion, assess interest at the rate of 1 and 1/2 percent per month or the maximum rate allowed by law. The Purchaser also agrees to pay any reasonable and customary legal fees or agency commissions sustained by TeleRadio in pursuit of any payment which is past due.

4. **TAXES:** The Purchaser agrees to pay any federal excise, state or local taxes, if any.

5. **PRODUCT OR PRICE CHANGE:** The contract, product specification, and statements concerning products and any published prices are subject to change without prior notification. The only exceptions are special quotations and purchase orders accepted by TeleRadio.

6. **DELIVERY & LIABILITY:** TeleRadio shall not be liable for loss or damage of any kind resulting from carrier delay, or inability to deliver on account of Acts of God, fire, labor troubles, accidents, acts of civil or military authorities, fuel, labor or material shortages, or other such conditions beyond TeleRadio's control. The promised delivery date is the best estimate possible based on current and anticipated factory load. All shipments are made F.O.B. factory dock unless otherwise stated. All transportation, when not specified by Purchaser, will be the least expensive surface transportation. Costs of packing for domestic shipment are included in the quoted price. Any special packing may result in additional charges to Purchaser.

7. **RETURNS & CANCELLATIONS:** Orders placed by Purchaser, and entered upon TeleRadio's books cannot be canceled or changed except with TeleRadio's consent and upon terms that will indemnify TeleRadio against all losses. TeleRadio shall not accept returns without a request and authorization issued by it before shipment. All return shipments must be prepaid by the Purchaser and properly packed. TeleRadio shall not be responsible for damages incurred during such shipment.

8. **GENERAL:** All orders are subject to factory acceptance and shall not be considered a contract unless such order is accepted in writing by an authorized executive of Teleradio. Teleradio reserves the right to correct any clerical errors which may occur in quotations. Teleradio shall not be bound by any statements or promises made by any representative of TeleRadio which are not stated in and made a part of this contract. This contract is expressly made subject to the terms and conditions contained herein and will be interpreted accordingly if a conflict arises with Purchaser or its terms of purchase. The parties stipulate to the venue and jurisdiction of the courts located in Allegheny County, Pennsylvania for the resolution of any dispute that may arise hereunder.

TeleRadio Company, 1006 Corporate Lane, Unit C, Murry Corporate Park, Export, PA 15632

## APPENDIX

### 15.19 - TWO PART WARNING STATEMENT

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.

### 15.21 - MODIFICATION STATEMENT

NOTE: THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

DK

NO

SE

NL

ES

FR

DE

GB

US